Consumer and Corporate Affairs Canada
Consommation et Corporations Canada

(11) (A) No. 1 179 554

(45) ISSUED 841218

(52) CLASS 108-10
C.R. CL. 4-45

(51) INT. CL.[3] E06B 3/46

(19) (CA) **CANADIAN PATENT** (12)

(54) Separation for Showers, Bathtubs, or the Like

(72) Breuer, Horst,
Germany (Federal Republic of)

(21) APPLICATION No. 395,926

(22) FILED 820210

(30) PRIORITY DATE Germany (Federal Republic of)
(P 31 04 871.4) 810211

No. OF CLAIMS 6

Canada

DISTRIBUTED BY THE PATENT OFFICE, OTTAWA.
CCA-274 (11-82)

ABSTRACT OF THE DISCLOSURE

A separation is provided herein for showers, bathtubs, or the like. The separation includes a stationary, closed frame, made of several frame parts, for guiding at least one movable door element, and, if appropriate, for fastening a stationary door element, the at least one movable door element being suspended by rollers on the upper frame part of the frame. The stationary closed frame includes a closed lower frame part, this lower frame part having a box-like cross section, an upwardly directed narrowed portion of predetermined height and width, and an inclined run-off surface adjoining one side of the narrowed portion. A seal is provided for sealing the closed separation against discharging splashed or sprayed water. A movable door element, is also provided, the lower frame part of which faces the mentioned lower frame part of the stationary frame, and is provided with a downwardly open recess which conforms to the narrowed portion of the stationary framepart.

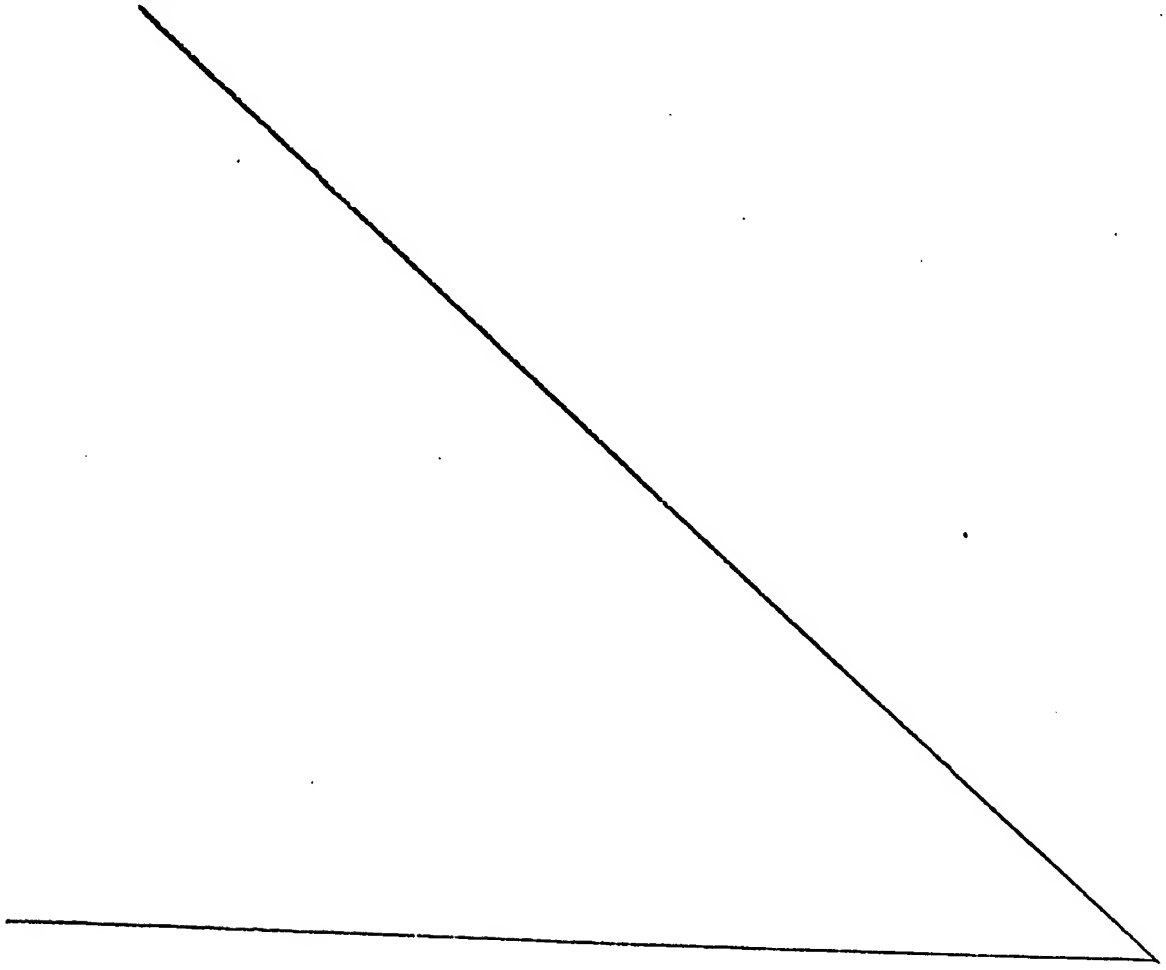
The present invention relates to a separation or partition for showers, bathtubs, or the like.

A separation which has made improvements with regard to operational advantages and hygiene, along with the details which are important in this connection, has already been disclosed in German Gebrauchsmuster 80 00 846, which belongs to the present applicant. However, this known solution is relatively costly, and, because of its configuration, still gives rise to possibilities for deposits for lime and dirt contained in the water, and also makes it somewhat difficult to clean.

It is therefore an object of an aspect of the present invention further to improve a shower separation of the type comprising a stationary, closed frame, made of several frame parts, for guiding at least one movable door element, and, if appropriate, for fastening a stationary door element; said at least one movable door element being suspended by rollers on the upper frame part of the frame; and means for sealing the closed separation against discharging sprayed or splashed water with respect to its operational advantages, to the cost for the production of the individual parts as well as of the entire separation, and also with respect to the ease of any cleaning which might become necessary.

According to one aspect of the present invention, a separation for showers, bathtubs, and the like, is provided which comprises: a closed stationary frame, which includes an upper stationary frame part, a lower stationary frame part, and side frame parts interconnecting said upper and lower stationary frame parts; at least two door elements mounted in the stationary frame and being respectively provided with upper and lower door frame parts, at least one of the door elements being

movably mounted in, and guided by, the stationary frame; rollers connected to the upper door frame part of each of the movable door elements, the rollers being supported by the upper stationary frame part for effecting in part the movable guidance of the movable doors; the lower stationary frame part having a closed box-like cross section, an upwardly directed narrowed portion, and an inclined run-off surface adjoining one side of the narrowed portion; and the lower door frame part of one of the at least one movable door elements facing the lower stationary frame part and being provided with a



downwardly open recess which confirms to, and is mounted over, the narrowed portion of the lower stationary frame part to effect the remainder of the guidance of the movable door elements, and to seal the separation, in its closed state, against splashed or sprayed water.

The separation of broad aspects of this invention first of all has the advantage that, as a consequence of the proposed configuration of the lower frame part of the stationary frame, and of the conforming configuration of the lower frame of the movable door element associated therewith (in the event of only one movable door element), cost can be saved during the production of the individual parts because of the collectively simpler construction.

Additionally, the combination of elements in aspects of this invention offers fewer possibilities for deposits of lime, dirt, and the like; cleaning is more easily possible, and requires less time.

Finally, for the foregoing reasons, readily recognizable advantages result for such a separation in daily use.

By a variant of this invention, the lower door frame part of one of the at least one movable door elements includes a sealing and guide element which is provided with the downwardly open recess which confirms to, and is mounted over, the narrowed portion of the lower stationary frame part.

By a further variant, the separation includes at least two movable door elements, with a first one of the movable door elements being provided with the sealing and guide element which is provided with the conforming recess, and with the remaining at least one additional movable door element having respectively associated therewith an upwardly directed guide rib, the sealing and guide element of the first one of the movable door elements being provided with a lateral, downwardly directed, finger-like extension in order to form a guide groove for the guide rib of that

movable door element adjacent the first one of the movable door elements.

By yet a further variant, the separation element includes three movable door elements, with a first one of the movable door elements being provided with the sealing and guide element which is provided with the conforming recess, and with the second and third movable door elements having respectively associated therewith one of the guide ribs, the second movable door element being adjacent the first movable door element, and the third movable door element being remote from the first movable door element and adjacent the second movable door element; the lower stationary frame part being provided with a downwardly directed extension, connected to the inclined run-off surface remote from the narrowed portion, in order to form a guide groove for the upwardly directed guide rib of the third movable door element.

By a variation thereof, the lower frame parts of the second and third movable door elements respectively include a sealing and guide element, each of which is provided with the upwardly directed guide rib of its associated door element.

Conventional separations of this type have frame parts of aluminum. The lower frame part of the movable door element of an aspect of the present invention can, as noted above, also be made of aluminum, and can even form a unit with this lower frame part. However, in order to obtain an operation of the movable door element which is as free of noise as possible, and in order to obtain as good a seal against splashed or sprayed water as possible, it is further proposed in accordance with another aspect of the present invention that a sealing and guide element, preferably of synthetic material, be connected to the lower, preferably aluminum, frame part of the movable door element.

In the event not only one movable door element, but rather two such door elements are to be utilized, it is furthermore proposed, as

noted above according to yet another aspect of the present invention, that on the guide element of the first movable door element there be provided a lateral, downwardly directed, finger-like extension in order to form a guide groove for a corresponding guide rib of a further, second movable door element.

In the event that three movable door elements are to be provided, it is further expediently proposed, as noted above, that the indicated lower frame part of the stationary frame have a downwardly directed extension connected to the inclined run-off surface in order to form a guide groove for an upwardly directed leg of a lower guide and sealing element of the third movable door element.

In the accompanying drawing,

Figure 1 is a sectional side view of a separation for a stationary door element and a movable door element in accordance with one embodiment of the present invention; and

Figure 2 shows a separation according to one embodiment of the present invention for a total of three movable door elements.

Referring now to the drawings in detail, Figure 1 shows a separation 1 having an upper frame part 2, a lower frame part 3, and similar side frame parts 4. A stationary door element 5 is fastened or secured in a known manner between the frame parts 2 and 3, as indicated in the drawing. Furthermore, a movable door element 6 is provided between the frame parts 2 and 3. The door element 6 is guided in a known manner, by means of a roller 7, in a track or guide

groove 8, which is formed by an extension 9 of the frame part 2.

To the lower end of the movable door element 6, on the lower frame part 10 thereof, is secured a sealing and guide element 11. This may be accomplished, for example, as illustrated, by means of an extension with a barbed toothing on the element 11, and a corresponding recess in the frame part 10. The guide element 11, which aside from guidance also serves for sealing-off against splashed or sprayed water, has a downwardly open recess 12. The closed lower frame part 3 of the stationary frame of the separation 1 has a box-like cross section, and is provided with an upwardly directed narrowed portion 13 which engages in the recess 12. The recess 12 in the guide element 11, and the narrowed portion 13 of the frame part 3, are expediently embodied in such a manner that the lateral legs of the guide element 11, which legs define the recess 12, engage with slight pressure against the corresponding surfaces of the narrowed portion 13.

The combination of the aforementioned features of the movable door element results in a separation which costs less to produce than similar heretofore known separations, and with which there is practically no longer any possibility for deposits of lime, dirt, and the like. The separation of broad aspects of this invention is distinguished by being extremely easy to clean, and with which additionally a good operation of the movable door elements is attainable and can be maintained over a long period

of use.

Figure 2 shows a separation 14, which comprises an upper frame part 15, a lower frame part 16, similar side frame parts 17, as well as movable door elements 18, 19, and 20.

The door elements 18, 19, and 20 are guided in a known manner, by rollers 21, in tracks or guide grooves of the upper frame part 15. In the lower frame parts of the door elements 18, 19, and 20, sealing and guide elements 22, 23, and 24 are secured in a manner recognizable from the drawing and in a manner similar to the situation for the illustration of Figure 1. The guide element 22 of the door element 18, as in the case of the door element 6 of Figure 1, is guided by means of a downwardly open recess 25 on an upwardly directed narrowed portion 26 of the lower frame part 16 of the stationary frame, which lower frame part 16 has a box-like cross section.

A finger-like, downwardly directed extension 27 on the guide element 22 serves to guide the second movable door element 19, and also serves to seal-off the shower or bath chamber outwardly against splashed or sprayed water. The extension 27 and the adjoining leg of the guide element 22 together form a guide groove 28 in which engages a guide rib 29, which represents an extension of a leg of the sealing and guide element 23 of the second movable door element 19.

To provide lower guidance of the third movable door element 20, the sealing and guide element 24 associated there-

with has an upwardly directed leg 30 which engages in a guide groove 31. The guide groove 31 is formed by a downwardly directed extension 33 adjoining the inclined run-off or discharge surface 32, and by the oppositely located wall region of the lower frame part 16.

If there are only two movable door elements, the extension 33 can, of course, be eliminated, so that the lower frame part of the stationary frame then corresponds to the frame part 3 of Figure 1.

Applicant has referred to preferably making the sealing and guide elements 11 and 22-24 of synthetic material. Any suitable synthetic material can be used, and can, by way of example, be polyvinyl chloride (PVC). It should also be noted that the central portions of the door elements 5, 6 and 18-20 are preferably made of a translucent or transparent material, e.g., by way of example, acrylic resins.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A separation for showers, bathtubs, and the like, comprising in combination:

a closed stationary frame, which includes an upper stationary frame part, a lower stationary frame part, and side frame parts interconnecting said upper and lower stationary frame parts;

at least two door elements mounted in said stationary frame and being respectively provided with upper and lower door frame parts, at least one of said door elements being movably mounted in, and guided by, said stationary frame;

rollers connected to said upper door frame part of each of said movable door elements, said rollers being supported by said upper stationary frame part for effecting in part said movable guidance of said movable door elements;

said lower stationary frame part having a closed box-like cross section, an upwardly directed narrowed portion, and an inclined run-off surface adjoining one side of said narrowed portion; and

said lower door frame part of one of said at least one movable door elements facing said lower stationary frame part and being provided with a downwardly open recess which conforms to, and is mounted over, said narrowed portion of said lower stationary frame part to

effect the remainder of said guidance of said movable door elements, and to seal said separation closed on all sides thereof, in its closed state, against splashed or sprayed water with contaminant deposits.

2. A separation in combination according to claim 1, in which said lower door frame part of one of said at least one movable door elements over entire width includes a sealing and guide element which is provided with said downwardly open recess which conforms to, and is mounted over, said narrowed portion of said lower stationary frame part.

3. A separation in combination according to claim 2, in which said lower door frame part is made of aluminum, and said sealing and guide element is made of synthetic material.

4. A separation in combination according to claim 2, which includes at least two movable door elements, with a first one of said movable door elements being provided with said sealing and guide element which is provided with said conforming recess, and with the remaining at least one additional movable door element having respectively associated therewith an upwardly directed guide rib, said sealing and guide element of said first one of said movable door elements being provided with a lateral, downwardly directed, finger-like extension in order to form a guide groove for said

guide rib of that movable door element adjacent said first one of said movable door elements.

5. A separation in combination according to claim 4, which includes three movable door elements, with a first one of said movable door elements being provided with said sealing and guide element which is provided with said conforming recess, and with said second and third movable door elements having respectively associated therewith one of said guide ribs, said second movable door element being adjacent said first movable door element, and said third movable door element being remote from said first movable door element and adjacent said second movable door element; said lower stationary frame part being provided with a downwardly directed extension, connected to said inclined run-off surface remote from said narrowed portion, in order to form a guide groove for said upwardly directed guide rib of said third movable door element.

6. A separation in combination according to claim 5, in which said lower door frame parts of said second and third movable door elements over entire width respectively include a sealing and guide element, each of which is provided with said upwardly directed guide rib of its associated door element.

1179554

2-1

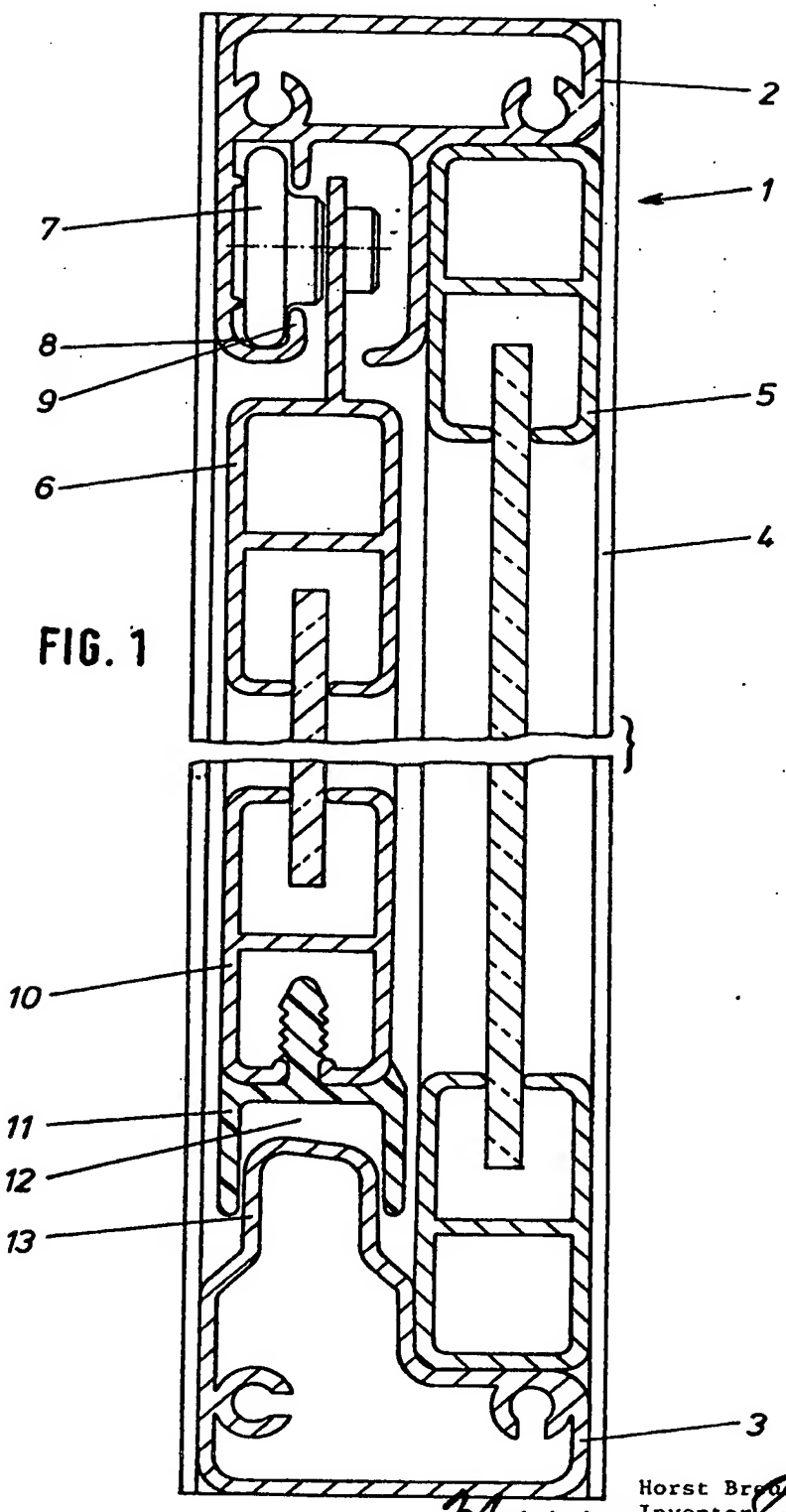


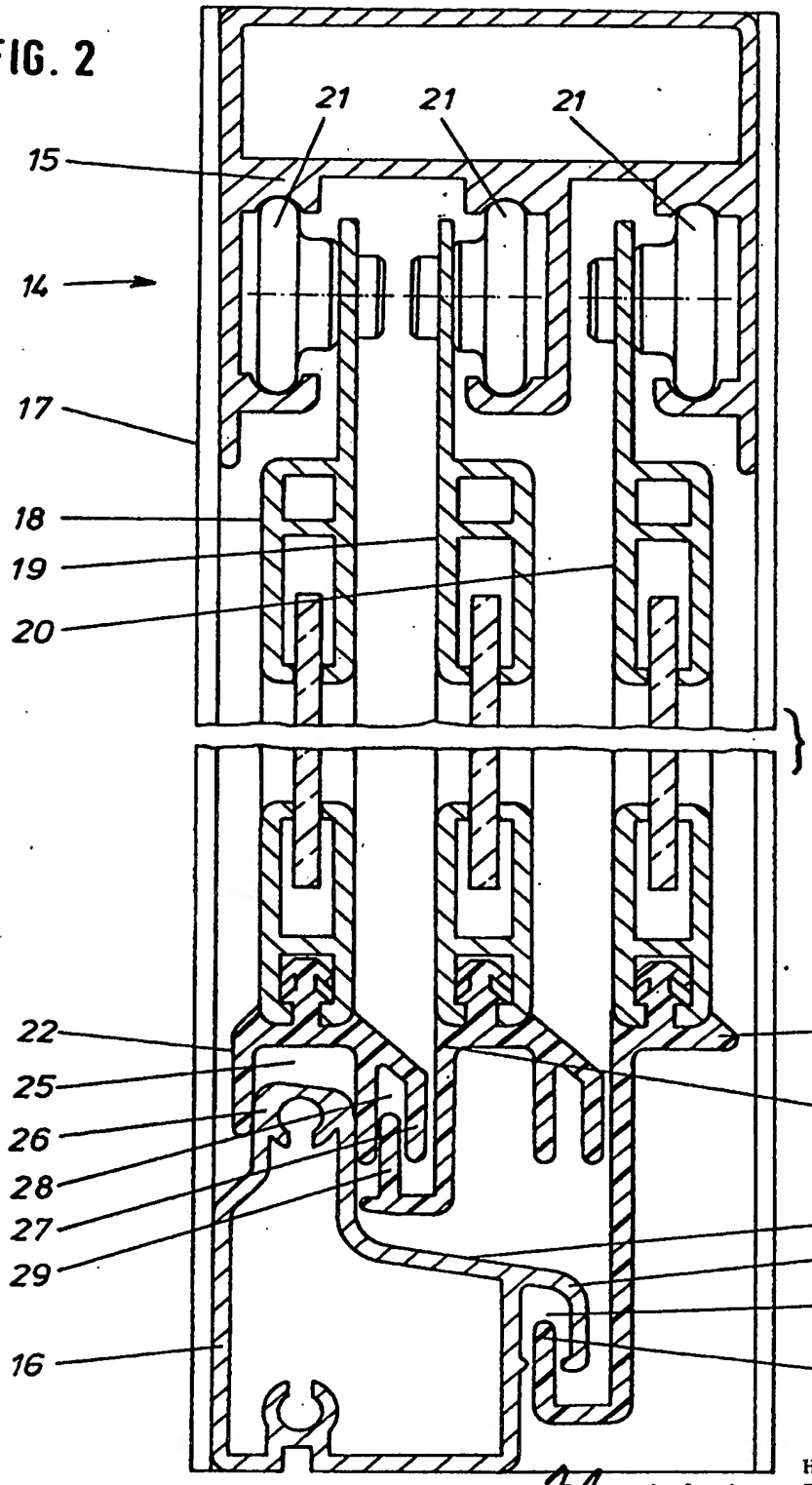
FIG. 1

Horst Breuer
Inventor,

Marcus & Sadis

PATENT AGENTS

FIG. 2



Horst Breuer
Inventor

Marcus, Jaeger

PATENT AGENTS